Figure 1A

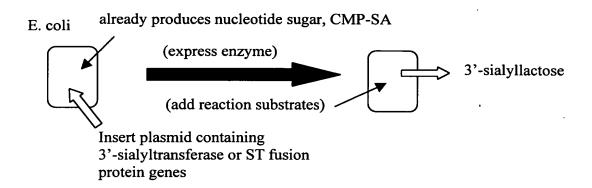
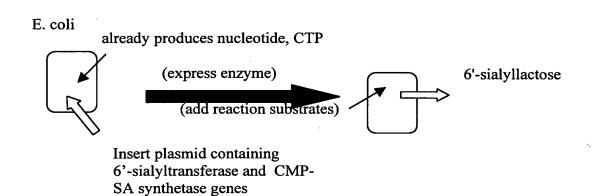


Figure 1B



protein

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Figure 2

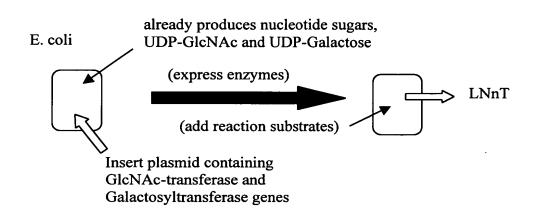


Figure 3

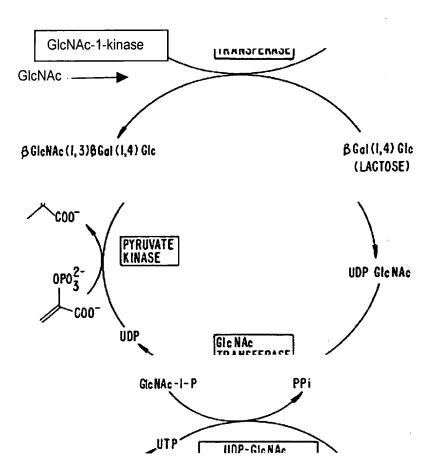
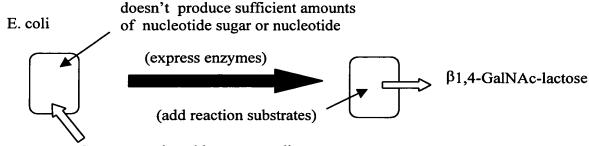
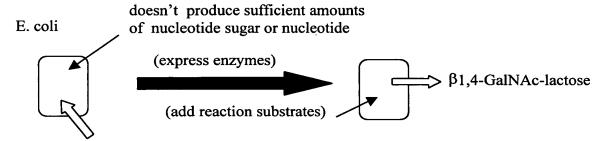


Figure 4A



Insert two plasmids, one encoding α 1,4-GalNAc-transferase, UDP-GalNAc epimerase, UDP-GlcNAc pyrophosphorylase genes and the second encoding GlcNAc-1-kinase, polyphosphate kinase and pyruvate kinase genes)

Figure 4B



Insert plasmid containing beta1,4-GalNActransferase, UDP-GalNAc pyrophosphorylase, GlcNAc 1-kinase, polyphosphate kinase and pyruvate kinase genes

Figure 5A

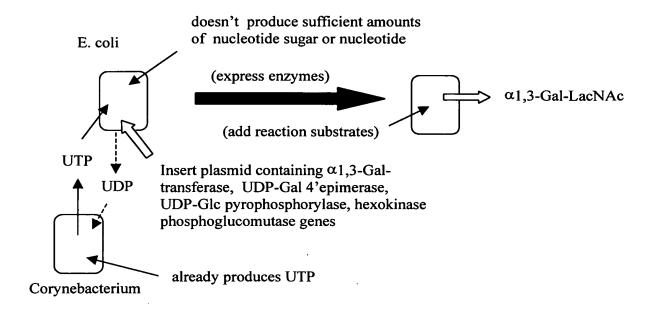


Figure 5B

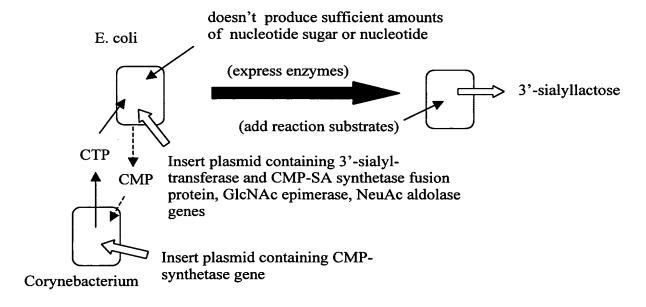
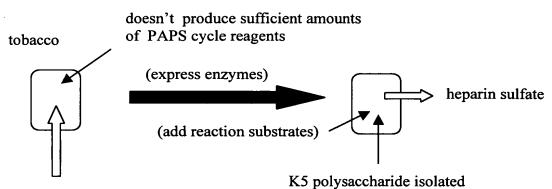


Figure 6

Figure 7A



Insert the 3'-sulfotransferase, 6'-sulfotransferase, 2'-sulfotransferase, Iduronyl-P-sulfotransferase, and PAPS cycle enzyme genes into genome

Figure 7B

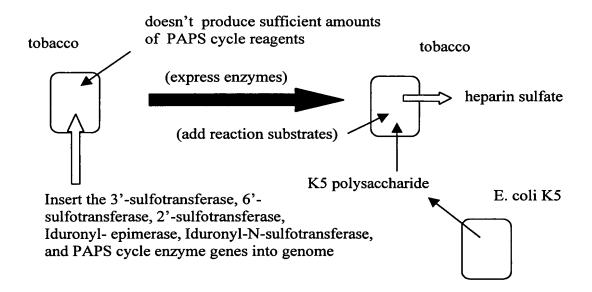
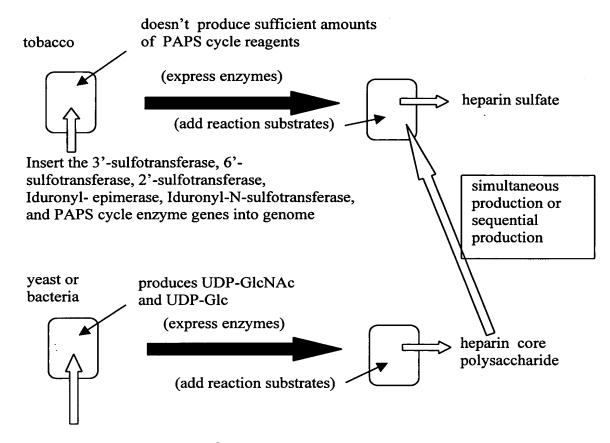
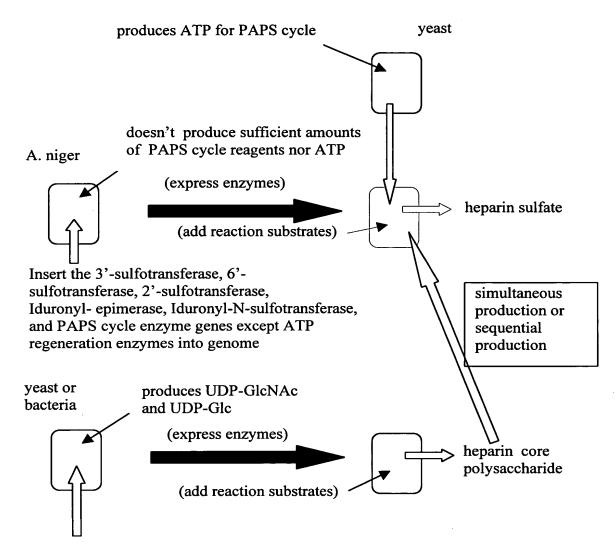


Figure 7C



Insert plasmid containing β 1,4-GlcNAc transferase, β 1,4-glucuronyltransferase and UDP-Glc dehydrogenase genes

Figure 7D



Insert plasmid containing β 1,4-GlcNAc transferase, β 1,4-glucuronyltransferase and UDP-Glc dehydrogenase genes

Figure 8

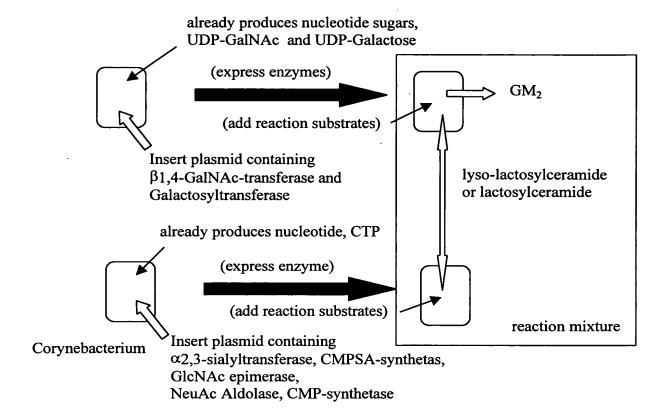
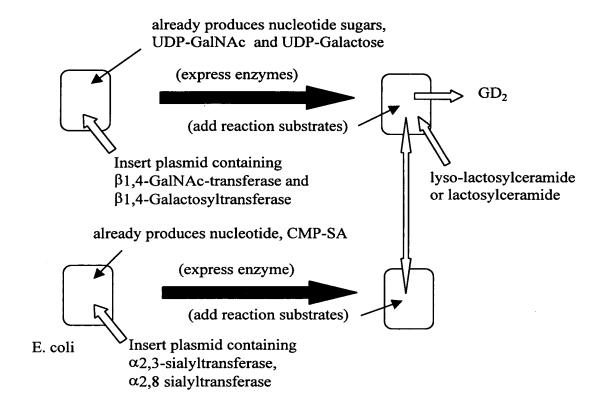


Figure 9



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Figure 10

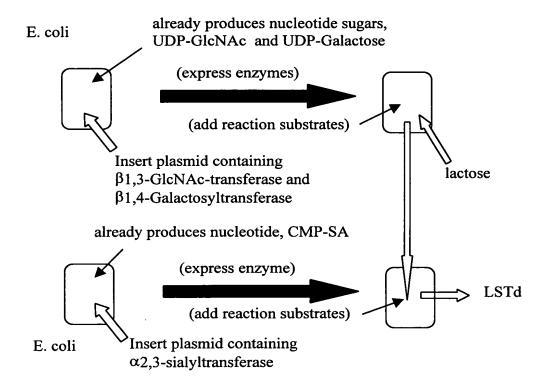


Figure 11A

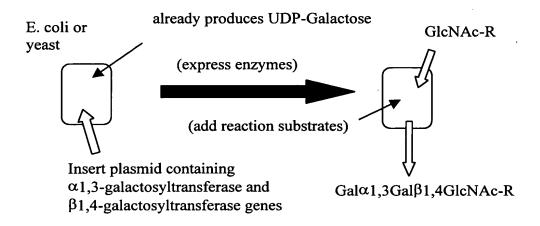


Figure 11B

